ABSTRACT

HACCP is a systematic approach to the identification and assessment of the hazards and risks associated with a food operation in defining the means of their control. It reduces the hazards such as biological, chemical and physical to an acceptable level to ensure a safe product to the consumer.

Cargills Quality Dairies (pvt) Ltd being a confineable food establishment under the umbrella of Cargills Ceylon Limited, which is one of the largest food sector retailer in Sri Lanka. The study was aimed at development of an HACCP manual for Fresh milk and Low fat fresh milk that can be established with necessary modifications. HACCP manual was developed to establish an effective hazard controlling system through identifying critical control points with broader identification of manufacturing of liquid milk process.

As the first step all the potential hazards associated with each processing step, beginning from raw material reception to transportation of the product were identified. Then Critical Control Points (CCPs) were identified. CCP monitoring, Corrective action and verification procedures were established. A Good Manufacturing Practices (GMP) manual was developed and documented as a pre requisite program as well as a one of important factor on successful development of HACCP manual.

Milk reception chill bath, pasteurizer-holding tube, milk storage tank (MST) after the pasteurizer, filter at temporary storage tank, finish product storage chill room and transportation are identified as the points that are needed to be critically monitored.

Milk reception chill bath temperature need to maintain below 4^0C to avoid the rapid proliferation of bacterial count. HTST (72^0C for 20 second) is the minimum temperature is to monitor with the pasteurizer. Filter enclosed to temporary tank needs to monitor to prevent of occurrence of physical mater in the final product. Mesh size 100 is taken as suitable for the filter and naked inspections need to be done at the beginning of the filling process. Operational limits of the pasteurizer was 82^0C-90^0C, is far above the required heat treatment for HTST. It inactivates the natural bacterial inhibiters in milk. Hence shelf life of the product may shorten than normal pasteurized milk. It felt temperature controlling is critical in following steps after the pasteurization. The temperature 4^0C is taken as the control limit for those after pasteurization process such as MST, Finish product storage chill room and transportation to ensure a safe product to customer. Below 0^0C is taken as minimum temperature to prevent destruction of organoleptic qualities given that those changes may occur at -0.53^0C, the freezing point of milk.